

Appl. No. 10/590,440
In re ARHAB et al.
Reply to Office Action of Apr. 29, 2008

Amendments to the Drawings:

The attached sheet of drawings includes changes to Fig. 1. This sheet, which includes Fig. 1, replaces the original sheet including Fig. 1. In Fig. 1, previously omitted driving shaft conventionally coupled to the casing 12 and reference letter B marking the driving shaft have been added. No new matter has been added.

Attachment: Replacement Sheet.

REMARKS/ARGUMENTS

The Examiner is thanked for the Official Action dated April 29, 2008. This amendment and request for reconsideration is intended to be fully responsive thereto.

Claims 1-13 have been also amended to correct minor informalities and better conform to current U.S. practice. No new matter has been added. It is respectfully submitted that these amendments are not intended to affect the substantive scope of the claims.

Specification has been amended to mark the described driving shaft with the reference letter B. No new matter has been added.

The sole drawing figure has been amended to add the driving shaft conventionally coupled to the casing 12 and to mark the driving shaft with the previously omitted reference letter B. No new matter has been added. Support for this amendment could be found in page 1, lines 14-15 and 18-20; page 9, lines 6-10; page 10, lines 5-6; page 12, line 17 – page 13, line 2; page 13, lines 3-6 and 7-12; and lines 3-4 of claim 1 of the present application.

Appl. No. 10/590,440
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Claims 1-13 were rejected under 35 U.S.C. 103(a) as being unpatentable over the Applicant's admitted prior art in view of Wörner et al. (US Patent 5,533,602) and Fukunaga et al. (US Patent 6,464,054). Applicant respectfully disagrees.

Regarding claim 1: The Examiner concedes that the applicant's admitted prior art does not disclose the damper plate located between the turbine wheel and the turbine hub, nor does the prior art disclosed by the applicant disclose a hydrokinetic coupling apparatus wherein the damper plate is disposed between the turbine wheel and the turbine hub. The Examiner, however, notes that Wörner discloses a turbine wheel of a torque converter wherein the turbine wheel 5 is welded to the hub 9 and the flange 15 of the disk support 10 is welded to the hub 9. The Examiner further alleges that at the time of the invention, it would have been obvious to a person of ordinary skill in this art to weld the turbine wheel and hub together in Applicant's admitted prior art as taught by Wörner. However, claim 1 does not recite the outer shell of the turbine wheel and the hub welded together. Contrary to the Applicant's admitted prior art and Wörner, claim 1 clearly recites the hydrokinetic coupling apparatus wherein the damper plate is disposed between the turbine wheel and the turbine hub. The advantage of the structure of the hydrokinetic coupling apparatus according to the present invention (i.e., the damper plate disposed between the turbine wheel and the turbine hub) is the larger space (access) around the welding joints for controlling and cleaning of the

joints. As clearly illustrated, the available space to the welding joint in the hydrokinetic coupling apparatus according to the present invention is substantially larger compared to the hydrokinetic coupling apparatus of Wörner. This is the solution of the problem to be solved by the present invention.

The Examiner further concedes that the combination of the Applicant's admitted prior art and Wörner does not disclose a hydrokinetic coupling apparatus having a damper plate disposed between the turbine wheel and the turbine hub, as recited in claim 1, and cites Fukunaga. The Examiner Applicant's admitted prior art as taught by Wörner alleges that Fukunaga discloses a torque transmitting device wherein the damper plate is between the turbine wheel and the turbine hub. The Examiner erroneously interprets the damper mechanism 32 (see col. 5, lines 40-42 and Fig. 1) as the damper plate. Clearly, those skilled in the art would not possibly interpret the entire damper mechanism 32 of Fukunaga as the damper plate. Moreover, Fukunaga clearly discloses that the damper mechanism 32 comprises a pair of drive plates 43 and 44, a turbine hub 22, and a plurality of torsion springs 52 interposed therebetween. Thus, those skilled in the art would interpret the turbine hub 22 as the damper plate constituting the output element of the damper mechanism 32 of Fukunaga. In other words, the turbine hub 22 of Fukunaga functions as both the turbine hub and the damper plate. Therefore, Fukunaga fails to disclose the hydrokinetic coupling apparatus including the damper plate disposed between the turbine wheel and the turbine hub.

Accordingly, even if the combination of and modification of the Applicant's admitted prior art and Wörner and Fukunaga suggested by the Examiner could be made, the resulting hydrokinetic coupling apparatus still would lack the damper plate disposed between the turbine wheel and the turbine hub. Consequently, the rejection of claims 1-13 under 35 U.S.C. 103(a) over the prior art is improper.

Regarding claim 2: in addition to the arguments regarding the patentability of claim 1, the prior art fails to disclose the mean diameters of the annular contact faces, namely the front contact face (90) and rear contact face (98), of the flange portion (86) substantially equal to each other.

The Examiner erroneously alleges that Wörner does disclose the coupling apparatus wherein the mean diameters of the annular contact faces of the axial projections (13, 20) of the flange 16 are substantially equal to each other. Contrary to the examiner's allegations, Wörner clearly discloses that an axial projection 20 originates from the face 19 in the direction of the axis of rotation 12--12 of the converter has an outside diameter 21 which is smaller than the outside diameter 22 of the flange 16. In this manner, the projection 20, which is connected with the flange 15 of the disk support 10 by means of friction welding, is offset radially toward the inside with respect to the projection 13 (see col. 5, lines 20-28 of Wörner).

Appl. No. 10/590,440
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In other words, the mean diameters of the annular contact faces of the axial projections (13, 20) of the flange 16 are not equal to each other. Accordingly, the rejection of claim 2 is improper.

Regarding claims 3, 4, and 10-13: in addition to the arguments regarding the patentability of claim 1, the prior art fails to disclose the outer and inner front weld bands and/or the outer and inner rear weld bands. In the event that the Examiner maintains the rejection of claims 3, 4 and 10-13 in a future written communication, the Applicant kindly requests the Examiner to point to a specific place (column, line) in the '602 patent or a specific portion of Fig. 1 where Wörner discloses the recited weld bands.

Regarding claims 5 and 6: in addition to the arguments regarding the patentability of claim 3, the prior art fails to disclose the outer and inner front weld bands and/or the outer and inner rear weld bands, wherein the mean diameters of the front and rear inner weld bands of the first and second welded joints are substantially equal to each other, or to the internal diameter of the flange portion. As argued above, regarding the patentability of claim 2, Wörner clearly discloses that an axial projection 20 originates from the face 19 in the direction of the axis of rotation 12--12 of the converter has an outside diameter 21 which is smaller than the outside diameter 22 of the flange 16 (see col. 5, lines 20-28 of Wörner). Accordingly, the rejection of claims 5 and 6 is improper.

Appl. No. 10/590,440
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Regarding claims 7 and 8: claims 7 and 8 depend upon the base claim 1, thus all the arguments regarding the patentability of claim 1 are equally applicable to claims 7 and 8.

New claim 14 has been added. The support for the new claim 14 can be found in page 11, lines 8-11 and Fig. 1 of the present application.

It is respectfully submitted that claims 1-14 define the invention over the prior art of record and are in condition for allowance, and notice to that effect is earnestly solicited. Should the Examiner believe further discussion regarding the above claim language would expedite prosecution they are invited to contact the undersigned at the number listed below.

Respectfully submitted:
Berenato, White, & Stavish

By: 

George Ayvazov
Reg. N° 37,483

6550 Rock Spring Drive, Suite 240
Bethesda, Maryland 20817
Tel. (301) 896-0600
Fax (301) 896-0607